

**Talking Points
Women's Equality Day Observance
August 26, 1994**

- We celebrate passage of the 19th Amendment today. Of course, it was a high point of early 20th century American history. It benefited our mothers, sisters, daughters and even our grandmothers. It really is hard to conceive of a society that denied women such a fundamental right as the right to vote. That sort of thing takes place in other countries.
- Unfortunately, the right to vote didn't guarantee equality, especially for professional women, especially for women engineers and scientists. Back in the 20s and 30s, women were steered away from these "non-traditional" fields. They had to be really persistent to get opportunities.
- Before World War II, industry, government and most colleges almost never hired women for science and engineering positions. Even when they did, the jobs were the lowest-paying and least important. Women were consigned to basement laboratories and attic offices.
- Even worse, job security for those women often depended on the largesse of a husband or male colleague. Author Sharon Bertsch McGrayne writes that at universities, "A woman had a permanent position only as long as her personal relationship with the man continued. In case of divorce or disaffection, the woman could be fired."

- Then World War II opened new vistas. There were many more opportunities for women scientists and engineers, and they took full advantage of them. Yet when the space age dawned in the post-war years, it was a man's world.

- One example of the prevailing philosophy: In a 1953 Collier's magazine article, Wernher von Braun and his colleagues reasoned that women would make good radio and radar operators aboard spaceships. After all, they said, women had already "proved they could perform monotonous tasks without undue loss of efficiency."

- ~~NASA didn't do much better early in its history.~~ Even at the height of Apollo, we had very few women engineers and scientists. Mission Control in Houston—it was called the *Manned* Spacecraft Center, of course—was all-male.

- Some women engineers played key roles, but they were essentially invisible. They received little or no public acknowledgment for their efforts. They had to be satisfied within themselves.

- One of our senior NASA officials recalls that her male colleagues during the Apollo era respected her engineering expertise. But when it came to being included in major meetings, she wasn't. When there was a briefing on her work to senior NASA officials, her male superiors got the nod to do it.

- How are we doing today? Some of the numbers look better. We now have 40 women in the Senior Executive Service at NASA, 8 percent of total SES. That's up from 6.3 percent earlier this year and 5.2

percent 2 years ago. We have 17 active women astronauts, including the first female shuttle pilot, Eileen Collins.

- While we pat ourselves on the back for those achievements, other figures are very troubling, and we're committed to doing something about them:

- Women make up only 15.3 percent of NASA's science and engineering workforce.

- Only 15.7 percent of the employees who report directly to me or to the NASA Center Directors are women.

- Several of our major technical codes at Headquarters have no women at the level of Division Director or higher.

- Too often, few women show up in senior positions when there's a reorganization at Headquarters or at the Centers. The reason given: "Well, the women candidates just aren't 'ready' yet."

- What if the same mindset had been applied to youthful male engineers and managers at Mission Control during the Apollo program? What if they hadn't had opportunities to be "ready?"

- Chris Kraft, in his mid-40s, might not have been there to run flight operations with a firm hand.

- 35-year-old Gene Kranz probably wouldn't have been there to successfully direct Apollo 11 as lead flight controller.

- And almost certainly Steve Bales, the 26-year-old guidance officer, wouldn't have been there to save the first lunar landing by giving Armstrong and Aldrin a "GO" despite computer alarms.

- outstanding
- I have charged each Center Director to diversify their staffs. They will make sure that women, minorities and people with disabilities are selected for positions at all levels. NASA has to look like America, and inspire all Americans. *The only requirement is world class capability to meet the future job reqts.*
 - We've incorporated that goal into NASA's Strategic Plan. It articulates our commitment to institutionalizing equal opportunity and diversity. We won't stray from that goal. I challenge everyone here to help us realize our vision.
 - I'm sure today's panel members will inspire you with their stories. They are all highly successful women in different fields who have pursued—and achieved—excellence.